



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,088	04/19/2004	Kuang-Kai Liu	9606	1872

27752 7590 10/31/2006

THE PROCTER & GAMBLE COMPANY  
INTELLECTUAL PROPERTY DIVISION  
WINTON HILL BUSINESS CENTER - BOX 161  
6110 CENTER HILL AVENUE  
CINCINNATI, OH 45224

EXAMINER

BOGART, MICHAEL G

ART UNIT PAPER NUMBER

3761

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/827,088

Applicant(s)

LIU, KUANG-KAI

Examiner

Michael G. Bogart

Art Unit

3761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections – 35 USC § 103*

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 8 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Castello (US 4,931,051) in view of Cammarota *et al.* (US 6,307,119 B1; hereinafter “Cammarota”).

Regarding claims 1 and 8, Castello teaches a diaper having a backsheet (190), a topsheet (170) and an absorbent core (180). Castello teaches a color wetness indicator printed onto a surface of a backsheet of the diaper (col. 2, lines 30-62). Castello further teaches a coating or varnish over the wetness indicator to prevent premature activation (col. 5, lines 14-21). Castello uses hydratable salts which must be preferably combined with binder to reduce toxicity and any contact between the salts and a wearer’s skin avoided (abstract; col. 3, lines 21-30). Castello’s preferred hydratable salt is copper sulfate, which is a skin irritant (col. 3, lines 61-65)(see, e.g., International Resources Inc., Material Safety Data Sheet, Copper Sulfate, January 2001, [www.iri-us.com/msds/copper.html](http://www.iri-us.com/msds/copper.html)).

Castello does not expressly disclose that the color wetness indicator is hydrolyzable.

Art Unit: 3761

Cammarota teaches an absorbent article (20) having wetness indication graphics (66) that dissolve in response to urine or water (col. 2, lines 47-57; col. 16, lines 64-67). Cammarota uses soluble dyes, which don't have the same toxicity issues as Castello's hydratable salts.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to substitute the graphics compositions of Cammarota for use as the wetness indicator material in the absorbent articles of Castello in order to provide a material that is known to be effective for that purpose and which lacks the toxicity of some hydratable salts.

Regarding claims 2 and 3, Cammarota teaches the use of alcohol as a non-aqueous solvent (col. 2, lines 47-57, incorporating by reference Timmons (US 4,022,211) which teaches a mixture of dye and alcohol, see Timmons col. 4, lines 1-30). Cammarota does not expressly disclose the specific concentration of solvent relative to dye.

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). In the instant case, increasing the amount of dye would increase the visibility of an image formed by the dye.

Regarding claim 12, Cammarota teaches a breathable backsheet (40)(col. 15, lines 37-62).

Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Castello and Cammarota as applied to claims 1-3, 8 and 12 above, and further in view of Schleinz *et al.* (US 5,458,590 A; hereinafter "Schleinz").

Castello and Cammarota do not teach the claimed acetate(s).

Schleinz teaches an ink blend comprising n-propyl acetate (col. 2, lines 44-67) or isopropyl alcohol (col. 5, lines 27-45) which improves crockfastness.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the acetate of Schleinz in the wetness indicator of Castello and Cammarota in order to provide improved adhesion of the ink to the substrate.

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Castello and Cammarota as applied to claims 1-3, 8 and 12 above, and further in view of Ito *et al.* (US 5,595,754 A; hereinafter "Ito").

Castello and Cammarota do not teach the claimed coating materials.

Ito teaches absorbent color-changing sheets which use polyamides as resins in an impermeable layer (col. 6, lines 33 and 34).

At the time of the invention it would have been obvious to one of ordinary skill in the art to select the polyamide construction of Ito to use as an impermeable layer in the device of Castello and Cammarota in order to provide a known art recognized suitability for this purpose.  
MPEP § 2144.07.

Art Unit: 3761

Claims 7 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Castello and Cammarota as applied to claims 1-3, 8 and 12 above, and further in view of Olson *et al.* (WO 00/76442 A1; hereinafter "Olson").

Castello and Cammarota do not teach a wetness indicator printed on an inner surface.

Olson teaches an absorbent article having a changing wetness indicator printed on an inner surface of a backsheet (page 13, lines 8-12).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the graphic on the inner surface as taught by Olson with the absorbent article of Castello and Cammarota in order to provide partial protection from exterior humidity.

Claims 9, 10, 14 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Castello and Cammarota as applied to claims 1-3, 8 and 12 above, and further in view of Polansky *et al.* (US 4,249,532; hereinafter "Polansky").

Castello and Cammarota do not teach varnish disposed beneath the color responsive composition.

Polansky teaches a seal coat underlying a graphic design.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to provide a seal coat beneath a graphic as taught by Polansky in combination with the wetness indicating article of Castello and Cammarota in order to provide additional means of preventing premature activation.

Regarding claim 15, Cammarota teaches a breathable backsheet (40)(col. 15, lines 37-62).

Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Castello and Cammarota as applied to claims 1-3, 8 and 12 above, and further in view of Perrault *et al.* (US 4,717,378; hereinafter "Perrault").

Castello and Cammarota do not teach the specific type of dye.

Perrault teaches a method for detecting dehydration of a hydrogel which includes using D&C Red #27 (col. 2, lines 19-25). This particular dye is skin-contact grade.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the indicator dye of Perrault in the device of Castello and Cammarota in order to provide a substance known to be effective for that purpose and being of skin contact grade.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 3761

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

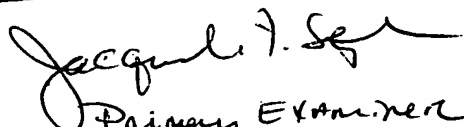
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bogart whose telephone number is (571) 272-4933.

In the event the examiner is not available, the Examiner's supervisor, Tatyana Zalukaeva may be reached at phone number (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for formal communications. For informal communications, the direct fax to the Examiner is (571) 273-4933.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Michael Bogart  
25 October 2006

  
Jacqueline Stephens  
Primary Examiner  
AU 3761

JACQUELINE STEPHENS  
PRIMARY EXAMINER